VIA MEDICA

CASE REPORT

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Oesophageal cancer — case report and literature review

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ABSTRACT

Based on the case report in this article, the different means of effective treatment, both causative and palliative, including available therapeutic modalities (radio-chemotherapy, chemotherapy) of locally advanced and subsequently metastatic squamous cell carcinoma of the cervical oesophagus, are presented. Despite a very long period between diagnosis and initiation of the treatment, satisfactory disease control and overall survival were achieved.
Key words: squamous cell carcinoma of the cervical oesophagus, management strategy, available therapeutic modalities (radio-chemotherapy, chemotherapy)

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Introduction

Cancers of the gastrointestinal tract (GI) account for a significant proportion of all malignant diseases — in Poland in 2014 there were 32,000 newly diagnosed patients and almost 28,000 deaths (men comprise approximately 46% of all patients). The similar morbidity and mortality rates probably result from poor prognosis, associated with the majority of GI malignancies [1].

During the last few decades morbidity and mortality from oesophageal cancer have not changed markedly in the majority of European countries, as well as in Poland, still accounting for approximately 2% of all malignant diseases. In 2014 in Poland approximately 1350 newly diagnosed oesophageal cancers were noted, including 1030 in male and 310 in female patients. The greatest decline of mortality was observed in France, whilst the highest mortality rate among European countries is seen in the UK. Oesophageal malignancies are distinctly more frequent in men — in Poland even four-fold more than in women (2014) [1].

The most frequent histological type of oesophageal cancer is squamous cell carcinoma — it is located mainly in the upper and middle parts of the oesophagus, while adenocarcinoma is usually diagnosed in the lower part. Neuroendocrine malignancies, sarcomas, and lymphomas are extremely rare [2].

Primary risk factors of oesophageal cancer development (squamous cell carcinoma) are smoking and alcohol consumption — which are responsible for approximately 90% of cancers. Other risk factors include: previous treatment due to squamous cell carcinoma of the head and neck or lung, oesophageal burning, oesophageal achalasia, Plummer-Vinson syndrome, and genetically-dependent hand-foot hyperkeratosis [2].

The risk of oesophageal adenocarcinoma (lower part) increases gastroesophageal reflux disease (GERD), Barrett's oesophagus, obesity, smoking, and previous mediastinal irradiation; however, there is a lack of association with alcohol disease [2].

The signs and symptoms of oesophageal cancer include: dysphagia (choking, coughing, vomiting reflex, and feeling of pressure in the chest), painful swallowing, weight loss, dyspnoea, and hoarseness.

Diagnostic workout should include imaging tests (computed tomography — CT, conventional radiogra-

phy, positron emission tomography — PET, and ultrasonography — US) together with invasive investigations (oesophageal endoscopy with sampling of representative tissue for histological examination — EUS) [2].

Choice of therapy depends on cancer type, localisation, and stage, as well the patient's general health state. Treatment is difficult with high risk of serious complications (including fatal), and should be planned and administered within interdisciplinary teams. Dietary treatment is a very important component of general management.

Primary surgical treatment is limited only to patients with good performance status, without serious concomitant diseases, e.g. patients with T1/T3 cancer of thoracic oesophagus or oesophagogastric junction, even with metastases to regional lymph nodes. Only selected patients with T4 tumours are eligible for surgery. Localisation of cancer is crucial in making a decision about radical operation. In patients with resectable, locally unresectable, or borderline unresectable cancer without contraindications to operation, it is important to consider preoperative radiochemotherapy (perioperative chemotherapy in patients oesophagogastric junction tumours). This type of management significantly prolongs overall survival [3–8].

Radiotherapy alone is used only as part of palliative care. Achieving partial regression significantly influences the quality of life, connected with swallowing improvement and pain relief.

Postoperative irradiation combined with chemotherapy should be considered in patients after non-radical resections (R1 and R2 resections). In patients with squamous cell carcinoma after R0 resection, radiotherapy does not improve prognosis. In adenocarcinoma patients, postoperative radiochemotherapy increases the 5-year survival rate and decreases the number of local failures [9, 10].

Radical chemoradiotherapy is the treatment of choice in patients with cancer of the cervical oesophagus. Delayed effects of this treatment are comparable with surgical treatment; however, surgery is not recommended because it is connected with significant patient injury [11].

Palliative chemotherapy improves overall survival and quality of life, compared with supportive care only. Multidrug cytotoxic protocols show the greatest effectiveness, as well as immunotherapy with trastuzuamb (anti-HER2 agent) in patients with HER-positive cancer of the oesophagogastric junction [12].

Palliative supportive care is aimed to ensure life comfort by maintaining (if possible) the gastrointestinal tract patency, adequate to clinical situation dietary treatment, appropriate pain control, and relief of other symptoms (dyspnoea).

Case report

We present a young (38 years old at diagnosis) male patient without concomitant diseases and with positive smoking history. The first manifestations of disease included difficulty swallowing (06/2014). Because of that the patient visited a GP office (08/2014) and was referred to a specialist in gastroenterology for second opinion (the visit date was set for 01/2015). Based on the gastroenterologist's suggestion, the patient was qualified to endoscopy. The examination was not possible in the outpatient setting, due to narrowing of the upper part of the oesophagus with inability to use the endoscope. The patient was referred to the hospital; however, despite sedation, endoscopy of the upper GI track was impossible (02/2015), again due to narrowing of the upper part of the oesophagus. Chest CT scans revealed extensive tumour, probably growing from the cervical part of the oesophagus. The patient was preliminarily qualified to radical radiochemotherapy after nutritional percutaneous gastrostomy and histological confirmation (03/2015). Gastrostomy was performed according to Kader's method (03/2015). Due to the lack of possibility to sample tissue for histological examination during upper GI tract endoscopy, the next CT was performed before EBUS/TBNA, confirming locally advanced disease (04/2015). During EBUS/TBNA the relevant biopsy was taken from oesophagus infiltration and mediastinal lymph nodes group 7, and squamous cell oesophageal carcinoma was finally diagnosed (04/2015), with negative lymph nodes. After the diagnosis was established, patient was referred to an oncology centre for consultation and further treatment. During qualification to radical radiochemotherapy, an additional oesophageal X-ray was performed with contrast medium orally administered. It revealed that contrast medium went to the bronchial tree and the patient gagged during swallowing. According to broncho-oesophageal fistula (BOF), the patient was considered as ineligible to radical combined therapy and referred to a thoracic surgery department (05/2015). Repeated bronchoscopy excluded BOF and infiltration of squamous cell oesophageal cancer of membranous trachea was diagnosed (cT4b cN0 cM0). The patient was referred to the Gastroenterology Department (06/2015). An attempt was made to perform upper GI tract endoscopy with prosthesis placement was unsuccessful. Based on imaging tests, metastatic disease was excluded (abdominal US — 06/2015). The patient was referred to our site (Department of Clinical Oncology, University Clinical Centre Prof. K. Gibiński Memorial in Katowice) for causative treatment. Taking into consideration his cancer stage, young age, and performance status scored as 2 according to the WHO scale, the patient was qualified to radical radiochemo-

therapy (54 Gy in 30 fractions 1.8 Gy in combination with chemotherapy including carboplatin AUC2 + paclitaxel 50 mg/m^2 every seven days). Although the standard chemotherapy contains cisplatin and fluorouracil, patients received non-standard protocol, expecting lower toxicity of this treatment. Therapy was completed as planned (07–08/2015) with four chemotherapy cycles and full-dose radiotherapy. Tolerability to the treatment was acceptable. There were no significant complications, despite side effects of radiotherapy grade II. After completion of combined therapy (10/2015) the patient was presented as a radiotherapy outpatient (UCC in Katowice) with tumour in the area of left angle of the mandible. CT scans of the head and neck (10/2015) revealed diffuse increased density of perioesophageal and peritracheal tissue (possibly due to previous therapy) and an enlarged single lymph node in the left posterior cervical area. Ultrasound-guided biopsy of this lymph node was performed (11/2015) confirming metastasis — focuses of squamous cell carcinoma were microscopically present. The patient was qualified to palliative radiotherapy of the area of the lymph nodes of the left cervical upper and middle compartments. Treatment was performed (12/2015) with a single dose of 8 Gy. It resulted in pain relief in the area of the affected lymph nodes and cessation of their enlargement. After 3 months (03/2016) the patient experienced further disease progression in the left cervical lymph nodes and local oesophageal recurrence (CT of chest and neck), but excluding secondary central nervous system (CNS) involvement (CT) — this was done because the patient complained about headaches since the beginning of February 2016 (self-improving — symptom relief in the middle of March 2016). Taking into consideration his good performance status (WHO 1), the patient was qualified to first-line palliative chemotherapy with cisplatin + fluorouracil. Chemotherapy started in April 2016, and after 3 cycles a partial response was found based on imaging tests and clinical assessment. At the time of cycle 6 (09/2016), progression of disease was diagnosed in cervical and oesophageal lymph nodes (CT of neck and chest). The patient was qualified to second-line palliative chemotherapy with irinotecan alone in a dose of 150 mg/m^2 every 14 days. Following 2 infusions the patient achieved partial response — metastatic left cervical lymph nodes were smaller in clinical examination. After an additional 2 infusions (09–11/2016) — up to 4 infusions in total — clinical and imaging progression was noted with significantly enlarged mass of lymph nodes in the left cervical area. Considering good performance status and lack of significant toxicities after previous treatments, the patient was qualified to third-line chemotherapy with paclitaxel 80 mg/m^2 in days 1, 8, and 15 in 28-day cycles. Treatment was started (11/2016) and continued (02/2017) for up to 3 cycles. During the treatment, progression of disease was noted based on clinical assessment and imaging tests (02/2017). Progressive disease included local progression with infiltration of the trachea together with its compression and narrowing, as well as distant progression — further enlargement of lymph nodes mass in the left cervical area. Considering the risk of respiratory tract obstruction, it was proposed that tracheotomy be performed together with tracheostomy as a prerequisite of palliative radiotherapy; however, the patient refused this. Consequently, palliative radiotherapy was retreated (because the risk of complete blockage of the respiratory tract was too high) and forth-line palliative chemotherapy was initiated with methotrexate alone in the dose of 25 mg/m^2 every seven days. Treatment was started in February 2017 and is currently being continued with partial disease regression.

Summary

Presented report of clinical course and treatment of oesophageal cancer is an example of an individualised therapeutic approach, with consideration of different additional factors influencing the chance of successful therapy. Promptness of diagnosis and short period between diagnosis and initiation of treatment play an essential role in achieving a positive result of therapy. Despite the unsatisfactory general status of the patient at qualification to therapy, combined treatment resulted in a positive effect as regards local disease control with no significant adverse effects. Multiple lines of chemotherapy with a variety of cytotoxic drugs allowed achievement of response to therapy (during the few first cycles of each chemotherapy protocol) with partial regression of tumour masses. Employment of palliative radiotherapy, for local disease control as well as pain relief, prolonged the period between subsequent chemotherapy lines and significantly decreased the need for analgesics. An individualised approach, but not necessarily fully compliant with approved standards in similar cases, allows achievement of disease control and significant prolongation of overall survival or improvement of the patient's quality of life. In patients with oesophageal cancer, diagnosis and treatment should be conducted in highly specialised centres, properly equipped with appropriate technical facilities as well as with highly specialised and qualified staff.

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